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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,867	09/22/2006	Hiroyuki Kato	2006_1530A	4181

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EXAMINER

BADR, HAMID R

ART UNIT	PAPER NUMBER
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1781

NOTIFICATION DATE	DELIVERY MODE
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06/09/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/593,867	Applicant(s) KATO ET AL.	
	Examiner HAMID R. BADR	Art Unit 1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/08/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' amendment filed 2/25/2010 is acknowledged.

Claims 1 and 6 are being considered on the merits.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 requires a heat treatment at 100C to 160C for 1 second to 60 minutes. While the specification, as originally filed, supports heating the soybean protein at 100C to 160C for 1 second to 60 seconds, there is no support for heating the soybean protein for 1 second to 60 minutes, as presently claimed, at the claimed temperatures.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Motoki et al. (US 5,156,956; hereinafter R3).
3. R3 discloses the cross-linked soybean proteins with gelling properties using transglutaminase reactions.
4. R3 discloses the preparation of gelled soybean protein from commercially available soybean milk (Example 10) and a gelled product from prepared soybean milk wherein the milk is extracted by heating at 100 C for 5 minutes. After adding the transglutaminase and completion of the reaction, the mixture is heated at 90C or more and heated 30-60 minutes. (Example 11).
5. Since R3 discloses the method of gelling of soybean protein with transglutaminase having high quality, the number of Glu-Lys bonds existing in 1 g of the soybean protein will inherently be in the range as presently claimed.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-209716 (Machine translation; hereinafter R1) in view of Schaefer et al.

(2004/0241284; hereinafter R2)

3. R1 discloses the preparation of a soybean isolate wherein defatted soybean is extracted and the protein is precipitated at isoelectric point (pH 4.5). The precipitated protein is then separated from whey, and neutralized to pH 7.0. Thereafter, a solution comprising the isolated soybean protein is reacted with transglutaminase. After the reaction is complete, the cross-linked protein is heated at 120C and the mixture is spray dried. [0023-0025]

4. Further, it is noted that while R3 additionally discloses casein, in light of the open language of the present claims, i.e. "comprising", the claims are clearly open to the inclusion of additional components including casein.

5. R1 discloses using the prepared cross-linked protein mixture in sausages comprising ground meat. [0034].

6. It is noted that in isolating the soybean protein (e.g. making the milk), the soybean-water mixture is heated, therefore, the limitation of claim 4, is intrinsic in the process of isolating the protein from soybeans.

7. It is also noted that the progress in the transglutaminase activity can be monitored by controlling temperature, pH and duration of reaction. Therefore, controlling such parameters is within the skill of the art. Consequently, the limitation of claim 6, for controlling the number of Glu-Lys bonds formed, is well within the skill of the art.

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8. While R1 discloses the preparation of a cross-linked protein mixture, casein is also used in the cross-linked mixture.

9. R2 discloses the preparation of cross-linked plant proteins from de-oiled proteinaceous seeds. R2 discloses crosslinking protein isolates of plant proteins. [0026-0028].

10. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to follow the teachings of R1 for making cross-linked soybean isolate and leave out the casein component as taught by R2. The cross-linked plant protein so obtained would be a very economical protein source with gelling and emulsifying properties that can be used in processed meat as taught by the references and as presently claimed. Absent any evidence to contrary and based on the teachings of the cited references, there would be a reasonable expectation of success in making cross-linked soyprotein isolate.

Response to Arguments

Applicants arguments have been reviewed carefully. These arguments are not deemed persuasive for the following reason.

1. Applicants argue that R1 uses the transglutaminase in a mixture of soyprotein and casein while the presently claimed invention requires soybean protein.

a. Both claims 1 and 6 use the open language of “comprising”, therefore, the claims are open to other components such as casein.

b. The reaction of transglutaminase with soybean protein is clearly disclosed by R3 (new ground of rejection above).

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2. Applicants argue that R2 does not disclose the improvement of gelation ability and emulsification ability of the cross linked protein.
 - a. The cross-linking reaction in soybean protein is carried out for improving both the gelling and emulsifying capacity of the protein. Once that reaction is done, these properties will be inherent in the product. Please see the new reference for gelling characteristics of the cross-lined product.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R. Badr
Examiner
Art Unit 1781

/Keith D. Hendricks/

Supervisory Patent Examiner, Art Unit 1781